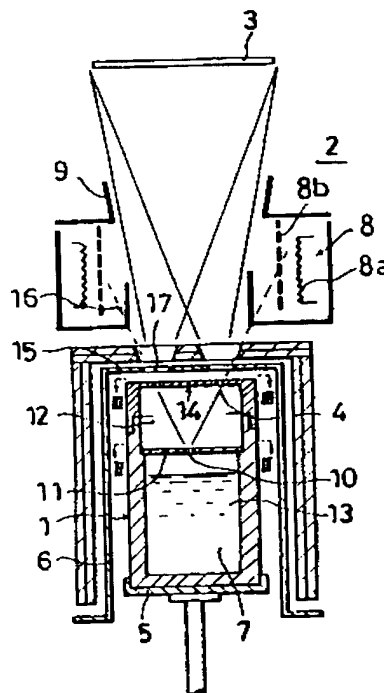


# Patent Abstracts of Japan

TITLE : VAPOR SOURCE DEVICE FOR  
CLUSTER ION BEAM



**CONSTITUTION:** A hermetic type crucible 1 is vertically segmented by a partition plate 11 having plural nozzles 10 of a large area to upper and lower chambers and an evaporating material 7 is housed in a lower chamber 13. Nozzles 4 having the area smaller than the area of the nozzles 10 are provided in the upper wall part 14 at the top of the crucible 1 and both nozzles 4, 10 are geometrically shifted. Through-holes 17 are provided to the upper heater 15 of the crucible 1. When the crucible 1 is heated by the heater 6 in this state, the vapor of the material 7 is ejected by passing successively through the nozzles 10 of the plate 11 and the nozzles 4 of the wall part 14 but even if the vapor condenses to the nozzle 10, direct spitting to a substrater 3 is obviated by the nozzles 4 shifted geometrically therefrom and since the temp. in the upper chamber 13 is made higher by the heater 15, the condensation of the vapor near the nozzles 4 is prevented.

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